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119. ((Amended)) The array as recited in claim 117 comprising more than 1000 groups of oligonucleotides of known sequences.

REMARKS

I. General

This amendment is responsive to the telephone conference with the Examiner of June 14, 1994. In that conference, the Examiner requested that claim 105 be amended to recite more than 100 DNA probes on the surface (support for which is found at page 29, line 20).

The Examiner also requested that the small-case claims be eliminated. Applicants understand that the prior amendment has not been entered and that the amendment was to be otherwise reproduced herein.

II. Rejections Under 35 USC 112, Second Paragraph

Claims 109-110, 112-115 are rejected as ambiguous. To rectify any possible ambiguity the claims have been amended as suggested by the Examiner. One exception is found in claim 110, where the Examiner's suggestion of adding "said" to "predefined" would introduce an antecedent basis problem. Accordingly, the rejections are believed to be overcome. The Examiner's attention to clarification of the claims is appreciated.

III. Rejections Under 35 USC 112, First Paragraph

The Examiner asserts that claims 109, 114, and 117-119 are only enabled for lithographic synthesis using a matrix mask strategy. The Examiner cites Ex Parte Jochim, 11 USPQ2d 1561 (Bd. of Pat. App. and Interferences 1989) for support.

Ex Parte Jochim and related cases are not applicable to the current claims. In Jochim, applicant had generic claims covering all antibodies that are reactive with one specified virus but not another. However, the disclosed method in Jochim provided for production of mouse antibodies only. In fact,

applicant had admitted that "success or failure [in producing an antibody] can depend on the development of the critical protocol." (Emphasis added.) This was naturally no surprise to the Examiner or the Board; production of antibodies, even mouse antibodies, is an unpredictable technology. The use of different immunization protocols can, and most often does, cause variations in the functional properties of the antibodies produced by the immunization. This fact was admitted by applicant and well known in the art. Put differently, Jochim had enabled only a very narrow scope of antibodies, but Jochim claimed an incredibly broad scope of antibodies without telling how one of skill in the art could make antibodies outside of the disclosed scope.

If one were to draw a Venn diagram of the Jochim claims (Figure 1), one would draw a very large circle to show the claim scope. However, if one was to draw another circle within this circle illustrating the scope of antibodies that were enabled, only a tiny circle would be drawn within this larger circle.

The situation with the present claims is entirely different. Applicants have claimed a substrate with an array of oligonucleotide molecules thereon, but enabled even far more than this. The Examiner does not dispute that Applicants have enabled a wide range of size and polymer types within the claimed scope. If one were to draw a Venn diagram of the claims in this application (Figure 2), one would draw a relatively small circle to illustrate the claimed size/dimensional substrates of oligonucleotide arrays. The "enablement" circle within this claim scope would effectively encompass substantially the entire "claim" circle and more--Applicants enabled a wide range of substrates within and even outside of the limited scope of oligonucleotide arrays. Production of such substrates would be entirely predictable within the claim scope herein given the disclosure of the specification.¹

1. The Examiner has, effectively, questioned the breadth of claims to which Applicants would be enabled for a method of making substrates. Applicants do not agree that only litho-

For these reasons it is asserted that the rejection should be withdrawn.

CONCLUSION

In view of the above claim amendments and remarks, Applicants request that the claims be passed to issue. If the Examiner believes that a telephone conference would in any way facilitate prosecution of the application, the Examiner is invited to contact the undersigned at (415) 326-2400.

Respectfully submitted,
TOWNSEND and TOWNSEND KHOURIE and CREW

Date: _____

6/14/94

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Enclosure:
Figures 1 and 2

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graphic methods are enabled, but this is an issue for another day, in an application where such method claims are presented. The single claim relating to processes herein is claim 120. Claim 120 is limited only to lithographic techniques.



Figure 1
Jochim Venn Diagram

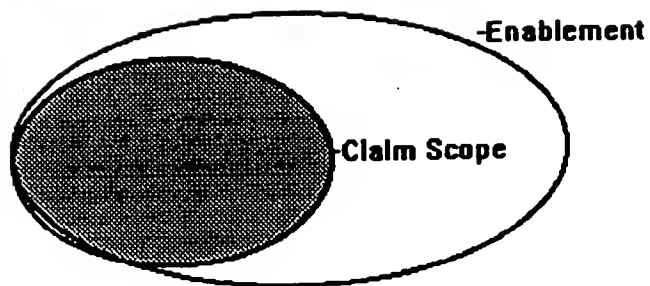


Figure 2
Venn Diagram of
the Present Claims